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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/628,660
Filing Date: July 28, 2003
Appellant(s): RAGHAVAN ET AL.

MAILED

JAN 23 2008

Technology Center 2600

Michael G. Fletcher
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal briefs filed September 4, 2007 and October 29, 2007
appealing from the Office action mailed February 26, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

20030211859	Chen et al	9-2003
20020098845	Hata et al	7-2002

6,104,917	Ketonen	8-2000
6,631,410	Kowalski et al	10-2003
6,931,102	Onweller et al	8-2005

Carl G. Eilers et al "Reradiation (Echo) Analysis of a Tapered Tower Section Supporting a Side-Mounted DTV Broadcast Antenna and the Corresponding Azimuth Pattern" IEEE Transactions on Broadcasting, VOL. 47, NO. 3, SEPTEMBER 2001, pp. 249-258

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 3, 4, 5, 8, 9, 10, 11, 17-21, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen et al (20030211859)** in view of **Hata et al 20020098845 (hereinafter Hata)**.

Regarding **claim 1**, Chen et al discloses a transceiver unit (base station 204, with transmit unit 268 and receive unit 254, see fig. 2, p. 2 [0025], p. 3, [0026]) for use with a wireless communication system (group communication system 100, see fig. 1, p. 2,

[0017]), the transceiver unit comprising: an antenna configured to receive a wireless transmission (antenna 250, see fig. 2, p.2, [0025]) from a mobile device (group communication devices 104, see fig. 1, p.2, [0018]) a communication interface (base station controller, BSC 110, see fig. 1, p. 2, [0019]) to facilitate communication between the transceiver and an access network unit (group call server performs call initiations and interacts with the communication devices, see p. 2, [0019], p. 3, [0029]) over an undedicated public network (IP protocol network 108, see p. 2, [0019]).

Chen fails to disclose wherein the communication between the transceiver unit and the access network unit is independent of a dedicated network.

In the same field of endeavor, Hata discloses wherein the communication between the transceiver unit (wireless bases station 104, see fig. 1, p.3, [0040]) and the access network unit (server 102, see fig. 1, p.3, [0040]) is independent of a dedicated network (mobile terminal 101 is coupled to server 102 via the wireless base station 104 and the internet, see fig. 1, p.3, [0040]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hata into the system of Chen for the benefit of providing a means for a mobile device to exchange data with a server.

Regarding **claim 2**, as applied to claim 1, Chen et al further discloses wherein the communication interface (base station controller, BSC 110, see fig. 1, p. 2, [0019]) comprises at least one protocol layer (BSC issues an internet group management protocol, IGMP to disconnect a multicast tree see p. 5-6, [0055]).

Regarding **claim 3**, as applied to claim 2, Chen et al further discloses wherein the at least one protocol layer maintains an IP address of the access network (the BSC binds each communicating device with the multicast IP-multicast address of a particular group call server).

Regarding **claim 4**, as applied to claim 2, Chen et al further discloses wherein the at least one protocol layer (transmitter data processor 264, see p. 2, [0026]) converts information (voice and/or packet data, see p. 2, [0026]) received from the access network unit (data source 262, see p. 2, [0026]) over the public network to RF signals (transmitter unit 268 converts voice and/or packet data to analog signals, see p. 3, [0026]) to be communicated by the transceiver over an air interface (voice and/or data is exchanged between base station 204 and mobile station 206 over via an air interface, see p. 2, [0022]).

Regarding **claim 5**, as applied to claim 2, Chen et al further discloses wherein at least one protocol layer converts RF signals (communication devices have IP connectivity with GCS 102, reverse link signal sent from mobile station 206 to base station 204, and base station receive data processor 58 recovers the voice/packet data, and the BSC sends media 622 received from a callers communication device to group call server, see p. 2, [0019], [0023]-[0025], p. 5, [0048]) received by the transceiver (base station 204, see fig. 2, p. 2, [0025]) over an air interface (air interface 208, see fig. 2, p. 2, [0022]) to information suitable for transmission over the public network (IP network 108, see fig. 1, p. 2, [0019]) to the access network controller (group call server 102, see fig. 1, p. 2, [0019]).

Regarding **claim 8**, as applied to claim 2, Chen et al further discloses wherein the at least one protocol layer (user datagram protocol, UDP see p. 2, [0020]) encapsulates higher protocol layer information (real-time protocol, RTP, see p. 2, [0020]) to facilitate protocol requirements over the public network.

Regarding **claim 9**, as applied to claim 2, Chen et al further discloses wherein at least one protocol layer comprises at least on technology dependent protocol layer (BSC issues an internet group management protocol, IGMP to disconnect a multicast tree see p. 5-6, [0055]).

Regarding **claim 10** as applied to claim 1, Chen et al further discloses wherein the public network comprises the internet (IP network 108, see fig. 1, p. 1, [0019]).

Regarding **claim 11**, as applied to claim 1, Chen et al further discloses wherein the transceiver unit comprising at least one antenna (antenna 250, see fig. 2, p. 2, [0025]) to facilitate communications between the receiver unit (base station 204, see fig. 2, p. 2, [0024]) and at least one portable communications device (mobile station 206, see fig. 2, p. 2, [0023]) over an air interface (mobile station 206 communicating with base station 204 over an air interface, see p. 2, [0022]).

Regarding **claim 17**, Chen et al further teaches a tangible medium (general purpose processor, DSP, ASIC, FPGA or programmable logic device, see p. 6, [0059]) having a software program (logic block, modules, and algorithm steps described can be implemented as computer software) for use in a wireless communication system (group communication system 100, see p. 2, [0017]), the software program comprising:

at least one routine for facilitating communication of information (call set-up process, see fig. 6, p. 4, [0039]) over an undedicated public network (IP network 108, see fig. 1, p. 2, [0019]) between at least one base station (base station 204 with a transceiver and receiver unit, see fig. 2, p. 2, [0025]), which is adapted to communicate over an air interface with portable communications devices (voice and/or data is exchanged between base station 204 and mobile station 206 over via an air interface, see p. 2, [0022]), and a controller (base station controller, BSC 110, see fig. 1, p. 2, [0019]), which is adapted to process information communicated with the as least one base station, wherein the controller is located between the base station and a service network (mobile station 206 with transmit and receive unit, and call set-up process in which mobile station communication device sends a group call request 604 to group call server in order to set up a group call, see figs. 1, 2 and 6, p. 2, [0019], [0023], p. 4, [0039]).

Chen fails to disclose wherein the software program comprises at least one routine for facilitating communication of information over an undedicated public network.

In the same field of endeavor, Hata discloses wherein the software program comprises at least one routine for facilitating communication of information over an undedicated public network (mobile terminal 101 is coupled to server 102 via the wireless base station 104 and the internet, see fig. 1, p.3, [0040]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hata into the system of

Chen for the benefit of providing a means for a mobile device to exchange data with a server.

Regarding **claim 18**, as applied to claim 17, Chen et al further discloses wherein the at least one routine facilitates communication information over the internet (communication devices 104 may have IP connectivity to group call server 102 through the IP network 108, see fig. 1, p. 2, [0019]).

Regarding **claim 19**, as applied to claim 17, Chen et al further discloses wherein the at least one routine comprises at least one protocol layer (session initiation protocol, SIP, see p. 2, [0020]) adapted to facilitate communication over the public network (communication devices 104 perform registration with group call server 108 using session initiation protocol, SIP, see p. 2, [0020]).

Regarding **claim 20**, Chen et al discloses a method of producing an information packet in a wireless communication system, the method comprising the acts of: receiving information from a transceiver unit via an air interface (mobile station 206 communicating with base station 204 over an air interface, see p. 2, [0022]); processing the information to form an information packet (base station demodulator 256 processes received signal and processor 258 decodes the symbols to recover the data and messages, see fig. 2, p. 2, [0025]) suitable for transmission to an access network via an undedicated public network (BSC sends media 622 that it has received from communication device to group call server, see fig. 6, p. 5, [0048]).

Chen fails to disclose transmitting the information packet to a controller independent of a dedicated connection.

In the same field of endeavor, Hata discloses transmitting the information packet to the access network unit (server 102, see fig. 1, p.3, [0040]) independent of a dedicated connection (mobile terminal 101 transmitting a shop number to a server via the wireless base station and the internet, see fig. 4, p.4, [0047]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Hata into the system of Chen for the benefit of providing a means for a mobile device to exchange data with a server.

Regarding **claim 21**, as applied to claim 20, Chen et al further discloses wherein the public network comprises the Internet (IP protocol network 108, see p. 2, [0019]).

Regarding **claim 24**, as applied to claim 20, Chen et al further discloses wherein transmitting the information packet to the access network unit comprises transmitting the information packet to a base station controller (see fig. 1, p.2, [0019]).

Regarding **claim 25**, Chen further discloses wherein transmitting the information packet comprises transmitting the information packet using one or more Tu-Txrs protocol layers (BSC issues an internet group management protocol, IGMP to disconnect a multicast tree see p. 5-6, [0055]).

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen et al (20030211859)** in view of **Hata et al 20020098845 (hereinafter Hata)** as applied to claim 2 above, and further in view of **Kowalski et al (6,631,410)**.

Regarding **claim 6**, as applied to claim 2, Chen et al, as modified by

Hata discloses the claimed invention except wherein the at least one protocol layer provides security information to the network access unit to facilitate secure communication over the public network.

In the same field of endeavor, Kowalski et al teaches wherein the at least one protocol layer (a protocol that employs the MAC layer, see col. 5, lines 41-45) provides security information the network access unit (see col. 5, lines 5-15) to facilitate secure communication over the public network (security, see col. 5, lines 41-45).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kowalski et al into the system of Chen et al and Hata for the benefit of providing secure multimedia content to a network.

Regarding **claim 7**, as applied to claim 2, Chen et al, as modified by Hata discloses the claimed invention except wherein the at least one protocol layer negotiates quality of service for communications with the access network over the public network.

In the same field of endeavor Kowalski discloses wherein the at least one protocol layer (a protocol that employs the MAC layer, see col. 5, lines 41-45) negotiates quality of service for communications (QoS, see col. 5, lines 41-45) with the access network unit (see col. 5, lines 5-15) over the public network (see col. 5, lines 5-15, 41-45).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Kowalski et al into the

system of Chen et al and Hata for the benefit providing reliable broadcast applications to small office/home networks.

4. Claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen et al (20030211859)** in view of **Hata et al 20020098845 (hereinafter Hata)** as applied to claim 1 above, and further in view of **Eilers et al "Reradiation (Echo) Analysis of a Tapered Tower Section Supporting a Side-Mounted DTV Broadcast Antenna and Corresponding Azimuth Pattern"**.

Regarding **claim 12**, as applied to claim 11, Chen et al, as modified by Hata discloses the claimed invention except the transceiver unit comprising a structure on which the at least one antenna resides.

In the same field of endeavor, Eilers et al discloses the transceiver unit comprising a structure on which the at least one antenna resides (side-mounted antenna on a tower, see fig. 1, p. 249, paragraphs 2-3).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Eilers et al into the system of Chen and Hata for the benefit of determining the azimuth pattern.

Regarding **claim 13**, as applied to claim 12, the combination of Chen et al, Hata and Eilers et al disclose the claimed invention (see claim 12).

Chen et al and Hata fail to disclose wherein the structure comprises a tower.

Eilers et al discloses wherein the structure comprises a tower resides (side-mounted antenna on a tower, see fig. 1, p. 249, paragraphs 2-3).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of Chen, Hata and Eilers by including wherein the structure comprises a tower for the benefit of determining the azimuth pattern.

Regarding **claim 14**, as applied to claim 12, the combination of Chen et al, Hata and Eilers et al disclose the claimed invention.

Chen et al fails to disclose wherein the structure comprises a building.

Eilers et al discloses wherein the structure comprises a tower resides (side-mounted antenna on a tower, see fig. 1, p. 249, paragraphs 2-3).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Chen, Hata and Eilers et al by including wherein the structure comprises a building for the benefit of determining the azimuth pattern.

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen et al (20030211859)** in view of **Hata et al 20020098845 (hereinafter Hata)** as applied to claim 1 above, and further in view of **Ketonen (6,104,917)**.

Regarding **claim 15**, as applied to claim 1, Chen et al, as modified by Hata discloses the claimed invention except wherein the transceiver comprises a structure for housing the communication interface.

In the same field of endeavor, Ketonen discloses wherein the transceiver comprising a structure for housing the communication interface (base station transceiver circuitry are housed within a cabinet, see col. 3, lines 13-15).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Ketonen into the system of Chen and Hata for the benefit of maintaining the temperature level of the radio circuitry.

Regarding **claim 16**, as applied to claim 15, the combination of Chen et al, Hata and Ketonen disclose the claimed invention.

Chen et al fails to disclose wherein the structure comprises a cabinet.

Ketonen discloses wherein the structure comprises a cabinet (base station transceiver circuitry are housed within a cabinet, see col. 3, lines 13-15).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the combination of Ketonen, Chen et al and Hata by including wherein the structure comprises a cabinet for the benefit of maintaining the temperature level of the radio circuitry.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Chen et al (20030211859)** in view of **Hata et al 20020098845 (hereinafter Hata)** as applied to claim 2 above, and further in view of **Onweller et al (6,931,102)**.

Regarding **claim 22**, as applied to claim 1, Chen et al, as modified by Hata discloses the claimed invention except wherein the transceiver is assigned an IP address to facilitate communications with the access network unit over the undedicated public network.

In the same field of endeavor, Onweller et al teaches wherein the transceiver (transceiver 66, see fig. 2, col. 7, line 36) is assigned an IP address (Unix server 80 assigns an IP address to transceiver 66, see col. 7, lines 36-37) to facilitate

communications with the access network unit (hub 60, see fig. 2, col. 7, lines 1-6) over the undedicated public network (IP network 34, see fig. 2, col. 7, lines 1-7, 36-48).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Onweller et al into the system of Chen et al and Hata for the benefit of providing communication between a wireless local area network and a central office.

(10) Response to Argument

Regarding claims 1, 17, and 20, the appellant asserts that the Chen reference and Hata reference, taken alone or in hypothetical combination, fail to present a prima facie case of obviousness under section 103. The appellant further asserts that both the Chen reference and Hata reference disclose or teach all the features set forth and described in the specification of the instant application. Specifically, the appellant asserts the Hata reference fails to disclose communication between the transceiver unit and the access network unit is independent of a dedicated network, as set forth in claim 1, a software program comprising a routine for facilitating communication of information over an undedicated public network, as set forth in claim 17, or transmitting an information packet to an access network via an undedicated network, as set forth in claim 20. The examiner respectfully disagrees and maintains that Chen, as modified by Hata meets the claimed limitations recited in claims 1, 17, and 20. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA

1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Regarding claims 1, 17, and 20, Chen discloses communication between the transceiver unit (base station 204 communicating with group call server, see figs. 1 and 2, p. 2, [0019], [0025]) and the access network unit (communication between communication devices CDs 104 and the group call server GCS 102, see figs. 1, 3, and 5, p.2, [0019]-[0020], p.3, [0029], p.4, [0038]). The group call server GCS 102 clearly discloses the claimed limitation of "access network unit" because it is used for call processing/initiation functions in the Chen reference (see p.3, [0028], [0034], [0038]-[0039]). Hata is used to disclose the functionality of the claimed limitation "wherein the communication between the transceiver and the access network unit is independent of a dedicated connection". The wireless base station 104 communicates with a server via the internet indicating that the communication between the server 102 and wireless base station 104 is "independent of a dedicated connection" (see p.3, [0041]). The Hata reference is used to show the functionality of an undedicated network connection between a transceiver unit and an access network unit or server. The examiner respectfully disagrees with the appellant's assertion that the wireless base station of Hata is analogous to a mobile switching center. As disclosed in Hata, element 104 is a wireless base station capable of communicating with a mobile terminal 101 (see p.3, [0040]). The examiner therefore maintains that Chen, as modified by the teaching of Hata, discloses the claimed limitations as recited in claims 1, 17, and 20.

Regarding claim 20, the applicant asserts that Chen fails to disclose, teach or suggest processing information into the form of a "packet" suitable for transmission via a

public network after the information is received by a transceiver via an air interface. The examiner respectfully disagrees. According to the Chen reference, the group call server sends/forwards media data sent from a caller's CD to a plurality of communication devices CDs (see fig. 5, p.4, [0039], [0048]), the media data transmitted to the communication devices is received by the base station 204 on the reverse link is processed and transmitted to the group call server (see figs. 1-3, 5, p.2-3, [0025]-[0026], [0029] p.4, [0038]-[0039], p.5, [0048]). This clearly reads on the claimed limitation of processing information into the form of a "packet" suitable for transmission via a public network after the information is received by a transceiver via an air interface. The examiner therefore maintains that Chen discloses the claimed limitations as recited in claim 20.

Regarding claims 2, 3, 4, and 5, The appellant asserts that the Kowalski reference, the Eilers reference, the Ketonen reference, and the Onweller reference fail to disclose communication between the transceiver and an access network unit over an undedicated public network, wherein the communication between the transceiver and the access network unit is independent of a dedicated connection, as set forth in claim 1. The examiner respectfully disagrees and maintains the arguments as set forth for claim 1 above. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Regarding claims 1, 17, and 20, Chen discloses communication between the

transceiver unit (base station 204 communicating with group call server, see figs. 1 and 2, p. 2, [0019], [0025]) and the access network unit (communication between communication devices CDs 104 and the group call server GCS 102, see figs. 1, 3, and 5, p.2, [0019]-[0020], p.3, [0029], p.4, [0038]). The group call server GCS 102 clearly discloses the claimed limitation of "access network unit" because it is used for call processing/initiation functions in the Chen reference (see p.3, [0028], [0034], [0038]-[0039]). Hata is used to disclose the functionality of the claimed limitation "wherein the communication between the transceiver and the access network unit is independent of a dedicated connection". The wireless base station 104 communicates with a server via the internet indicating that the communication between the server 102 and wireless base station 104 is "independent of a dedicated connection" (see p.3, [0041]). The Hata reference is used to show the functionality of an undedicated network connection between a transceiver unit and an access network unit or server. The examiner respectfully disagrees with the appellant's assertion that the wireless base station of Hata is analogous to a mobile switching center. As disclosed in Hata, element 104 is a wireless base station capable of communicating with a mobile terminal 101 (see p.3, [0040]). The examiner therefore maintains that Chen, as modified by the teaching of Hata, discloses the claimed limitations as recited in claims 2-5.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

(12) Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



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January 15, 2008

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